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## **NIRB Application for Screening #125034**

### **CROW - Canadian Ranger Ocean Watch**

**Application Type:** New  
**Project Type:** Research  
**Application Date:** 12/15/2016 4:06:55 PM  
**Period of Operation:** From 2017-02-15 to 2019-12-31  
**Proposed Authorization:** From 2017-02-15 to 2019-12-31  
**Project proponent:** Jane Eert  
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## **DETAILS**

### **Non-technical project proposal description**

English: CROW is a project carried out mainly by Canadian rangers as part of their regular activities for DND. Initially, simple but key observational parameters will be measured: snow and ice thickness; snow/ice interface temperature; and in the sea water: temperature, salinity, chlorophyll content, and dissolved oxygen. These quantities will be measured at flexibly determined locations by Canadian Rangers on snowmobiles near the villages of Kugluktuk, Cambridge Bay, and Gjoa Haven on patrols during the ice-covered period. Water properties will be profiled using an internally recording instrument. Profiles will help in understanding circulation and changes in the ocean. At a subset of the above science stations, an ice buoy will be deployed and left frozen in the ice to measure ice and water temperatures at hourly intervals, and transmit this data real-time via an Iridium link. The data will be used to help predict ice break up in the area.

French:

Inuktitut:

### **Personnel**

Personnel on site: 20

Days on site: 30

Total Person days: 600

Period of operation: from 2017-02-15 to 2019-12-31

Proposed term of operation: from 2017-02-15 to 2019-12-31

## ACTIVITIES

### Project Activities

Location	Activity Type	Land Status	Site History	Site Archaeological or Palentological Value	Proximity to the nearest communities and any protected areas
Kitikmeot Sea	Researching	Marine	n/a - sampling takes place on sea ice or in open water depending on the season	None	Marine sampling sites are scattered throughout the ocean area in the Kitikmeot region, with most sampling taking place within a few hours snowmobile or small boat travel of Kugluktuk, Cambridge Bay and Gjoa Haven. Areas further away will be sampled less regularly when Ranger Patrols travel through them.

### Community Involvement and Regional Benefits

Community	Name	Organization	Date Contacted
Kugluktuk	Baba Pedersen	Canadian Rangers + note: attached document describes all contacts 2014-2016.	2014-02-08
Gjoa Haven	Willy Aglukak	HTO	2015-03-25
Gjoa Haven	Adam Ukuktunnaq	Canadian Rangers	2015-03-26
Gjoa Haven	Brooke Boutilier	Gjoa Haven High School	2015-03-27
Cambridge Bay	Jorgen Aittaok	Kitikmeot Inuit Association	2015-03-30
Kugluktuk	Baba Pedersen	Canadian Rangers	2015-03-31
Kugluktuk	Hayden George	Kugluktuk High School	2015-04-01
Kugluktuk	Barbara Adjun	HTO	2015-04-02
Kugluktuk	Michael Valk	Kugluktuk High School	2016-03-07
Kugluktuk	Baba Pedersen	Canadian Rangers	2016-03-08
Gjoa Haven	Brooke Boutilier	Gjoa Haven High School	2016-03-09
Gjoa Haven	Willy Aglukak	HTO	2016-03-09
Cambridge Bay	Jimmy Evalik	Canadian Rangers	2016-03-12
Cambridge Bay	Howard Greenley	HTO	2016-08-04

## AUTHORIZATIONS

### Project Locations

Kitikmeot

### Project Authorization

Authorizing Agency	Authorization Description	Current Status	Date Issued / Applied	Expiry Date
Department of National Defense	Cooperative work with the Canadian Rangers, authorized from ICRPG in Yellowknife	Active		



## MATERIAL USE

Equipment to be used (including drills, pumps, aircraft, vehicles etc.)

Equipment Type	Quantity	Size - Dimensions	Proposed Use
ice auger	4	8" diameter flights	for drilling hole in sea ice for access to water
snowmobile	10	typical 350-550cc	access to sea ice observation stations
RBR Conductivity-Temperature-Depth instrument	4	21" long	taking top-to-bottom profiles of ocean properties
OML model 908 thermistor beacon	6/year	46" long x 6" diameter	monitoring sea ice melt
Lowell Instruments tilt current meter	4	30" long x 1.5" diameter	measure ocean currents during other measurements at a station
Niskin bottle	4	24" long x 4" diameter	collecting seawater from below the surface for chemical analysis
small boat	10	varies	access to sampling sites and sampling platform

### Detail Fuel and Hazardous Material Use

Fuel / Material	Type	Number of Containers	Container Capacity	Total Amount	Units	Proposed Use
Gasoline	fuel	4	5	20	Liters	snowmobile fuel
Gasoline	fuel	1	5	5	Liters	fuel for ice auger
Gasoline	fuel	1	20	20	Liters	fuel for small boats
mercuric chloride	hazardous	1	0.03	0.03	Liters	sample preservation
formalin	hazardous	1	0.5	0.5	Liters	sample preservation

### Project Water Consumption

Daily Amount (m3)	Proposed Water Retrieval Methods	Proposed Water Retrieval Location
0		

## WASTE

### Waste Management

Project Activity	Type of Waste	Projected Amount Generated	Method of Disposal	Additional Treatment Procedures
Researching	Other, minor trash from day-trips	1	return to community for disposal with normal garbage	none

### Environmental Impacts

There are no predicted impacts for this project. Most activities take place during day trips from local communities; overnight trips are conducted by the Rangers using their procedures for waste management.

Description of Existing Environment: Physical Environment

Description of Existing Environment: Biological Environment

Description of Existing Environment: Socioeconomic Environment

Identification of Impacts and Proposed Mitigation Measures

Cumulative Effects

